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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,143	07/26/2001	Masaki Yamamoto	SHIG19990241	7584
27667	7590	03/03/2005	EXAMINER	
HAYES, SOLOWAY P.C. 130 W. CUSHING STREET TUCSON, AZ 85701			KAO, CHIH CHENG G	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,143

Applicant(s)

YAMAMOTO, MASAKI

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-11 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 is/are allowed.
- 6) ☒ Claim(s) 8-10 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 28 and 30 are objected to because of the following informalities, which appear to be minor draft errors creating lack of antecedent basis and grammatical problems.

In the following format (location of objection; suggestion for correction), the following corrections may obviate their respective objections: (claim 28, line 2, "secondary electronic discharge"; replacing "electronic" with - -electron- - as exemplified on page 13, line 5, of the specification), (claim 30, line 1, "said optical change"; replacing "optional" with - -optical- - in line 2 of claim 29), and (claim 30, lines 2-3, "or a change ellipsometry"; inserting - -based on- - before "ellipsometry").

For purposes of examination, the claims have been treated as such. Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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2. Claims 8 and 10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 53 of copending Application No. 10/241959 in view of Sweeney et al. (US Patent 6235434).

3. Regarding claim 8, Application No. 10/241959 claims a multilayer film having alternating layers of different respective refractive indices to control a phase and adjusting a phase with a removed portion of the multilayer film in accordance with an amount of adjustment of phase (claim 8).

However, Application No. 10/241959 does not claim a method for forming a film consisting of a stack composed of high and low refractive index materials to control an amplitude of emerging rays and cutting away.

Sweeney et al. teaches a method for forming a stack (Fig. 1, #110 and 130), which would necessarily be composed of high and low refractive index materials (col. 3, lines 38-40) due to the nature of molybdenum and silicon, to control an amplitude of emerging rays and cutting away (Abstract).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the film of Application No. 10/241959 with a film consisting of alternating layers, since omission of an element and its function in combination where the remaining elements perform the same function as before involves only routine skill in the art. One would be motivated to make such a modification to reduce manufacturing costs.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the film of Application No. 10/241959 with the method of

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Sweeney et al., since one would be motivated to make such a modification to repair optical elements that were generally unrepairable before (col. 2, lines 47-51) as implied from Sweeney et al. to save on material costs.

This is a provisional obviousness-type double patenting rejection.

4. Regarding claim 10, Application No. 10/241959 as modified above claims a method as recited above.

However, Application No. 10/241959 does not claim cutting controlled by detecting a difference in a material.

Sweeney et al. further teaches cutting controlled by detecting a difference in a material (col. 4, lines 57-60).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Application No. 10/241959 as modified above with the detecting of Sweeney et al., since one would be motivated to make such a modification to repair optical elements that were generally unrepairable before (col. 2, lines 47-51) as implied from Sweeney et al. to save on material costs.

This is a provisional obviousness-type double patenting rejection.

5. Claim 9 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 53 of copending Application No. 10/241959 in view of Sweeney et al. as applied to claim 8 above and further in view of Murakami (US Patent 6160867).

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Application No. 10/241959 as modified above claims a method as recited above.

However, Application No. 10/241959 does not claim a number of cycles larger than necessary to substantially saturate a reflectance.

Murakami teaches a number of cycles larger than necessary to substantially saturate a reflectance (col. 1, lines 20-25).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Application No. 10/241959 as modified above with the number of cycles of Murakami, since one would be motivated to make such a modification to have that many cycles in order to obtain as high an interface-amplitude reflectance as possible (col. 1, lines 20-25) as implied from Murakami.

This is a provisional obviousness-type double patenting rejection.

6. Claims 29 and 30 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 53 of copending Application No. 10/241959 in view of Sweeney et al. as applied to claim 8 above and further in view of Iketaki (US Patent 5163078).

Application No. 10/241959 as modified above claims a method as recited above.

However, Application No. 10/241959 does not claim a difference in material detected by monitoring an optical change based on ellipsometry.

Iketaki teaches a difference in material detected by monitoring an optical change based on ellipsometry (col. 5, lines 25-31).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Application No. 10/241959 as modified above with the monitoring of Iketaki, since one would be motivated to make such a modification to keep film fabrication within tolerances (col. 5, lines 25-31) as shown by Iketaki for practical reflectance and high fabrication probability.

This is a provisional obviousness-type double patenting rejection.

7. Claim 28 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 53 of copending Application No. 10/241959 in view of Sweeney et al. as applied to claim 8 above and further in view of Iketaki and Smith (US Patent 4590376).

For purposes of being concise, Application No. 10/241959 as modified above claims a method as recited above.

However, Application No. 10/241959 does not claim monitoring a secondary electron discharge.

Smith teaches monitoring a secondary electron discharge (col. 1, lines 6-12).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Application No. 10/241959 as modified above with the monitoring of Smith, since one would be motivated to make such a modification to better monitor quality (col. 1, line 12) as implied from Smith.

This is a provisional obviousness-type double patenting rejection.

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8. Claims 8 and 10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 9 of copending Application No. 10/297965 in view of Sweeney et al.

9. Regarding claim 8, Application No. 10/297965 claims a multilayer film having alternating layers of different respective refractive indices to control a phase and adjusting a phase with a removed portion of the multilayer film in accordance with an amount of adjustment of phase (claim 8).

However, Application No. 10/297965 does not claim a method for forming a film consisting of a stack composed of high and low refractive index materials to control an amplitude of emerging rays and cutting away.

Sweeney et al. teaches a method for forming a stack (Fig. 1, #110 and 130), which would necessarily be composed of high and low refractive index materials (col. 3, lines 38-40) due to the nature of molybdenum and silicon, to control an amplitude of emerging rays and cutting away (Abstract).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the film of Application No. 10/297965 with a film consisting of alternating layers, since omission of an element and its function in combination where the remaining elements perform the same function as before involves only routine skill in the art. One would be motivated to make such a modification to reduce manufacturing costs.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the film of Application No. 10/297965 with the method of

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Sweeney et al., since one would be motivated to make such a modification to repair optical elements that were generally unrepairable before (col. 2, lines 47-51) as implied from Sweeney et al. to save on material costs.

This is a provisional obviousness-type double patenting rejection.

10. Regarding claim 10, Application No. 10/297965 as modified above claims a method as recited above.

However, Application No. 10/297965 does not claim cutting controlled by detecting a difference in a material.

Sweeney et al. further teaches cutting controlled by detecting a difference in a material (col. 4, lines 57-60).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Application No. 10/297965 as modified above with the detecting of Sweeney et al., since one would be motivated to make such a modification to repair optical elements that were generally unrepairable before (col. 2, lines 47-51) as implied from Sweeney et al. to save on material costs.

This is a provisional obviousness-type double patenting rejection.

11. Claim 9 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 9 of copending Application No. 10/297965 in view of Sweeney et al. as applied to claim 8 above and further in view of Murakami.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Application No. 10/297965 as modified above with the number of cycles of Murakami, since one would be motivated to make such a modification to have that many cycles in order to obtain as high an interface-amplitude reflectance as possible (col. 1, lines 20-25) as implied from Murakami.

This is a provisional obviousness-type double patenting rejection.

12. Claims 29 and 30 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 9 of copending Application No. 10/297965 in view of Sweeney et al. as applied to claim 8 above and further in view of Iketaki.

Application No. 10/297965 as modified above claims a method as recited above.

However, Application No. 10/297965 does not claim a difference in material detected by monitoring an optical change based on ellipsometry.

Iketaki teaches a difference in material detected by monitoring an optical change based on ellipsometry (col. 5, lines 25-31).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Application No. 10/297965 as modified above with the monitoring of Iketaki, since one would be motivated to make such a modification to keep film fabrication within tolerances (col. 5, lines 25-31) as shown by Iketaki for practical reflectance and high fabrication probability.

This is a provisional obviousness-type double patenting rejection.

13. Claim 28 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 9 of copending Application No. 10/297965 in view of Sweeney et al. as applied to claim 8 above and further in view of Iketaki and Smith.

For purposes of being concise, Application No. 10/297965 as modified above claims a method as recited above.

However, Application No. 10/297965 does not claim monitoring a secondary electron discharge.

Smith teaches monitoring a secondary electron discharge (col. 1, lines 6-12).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Application No. 10/297965 as modified above with the monitoring of Smith, since one would be motivated to make such a modification to better monitor quality (col. 1, line 12) as implied from Smith.

This is a provisional obviousness-type double patenting rejection.

Allowable Subject Matter

14. Claim 11 contains allowable subject matter.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 11, prior art does not disclose or fairly suggest a method including the steps of forming on a substrate a multilayer film consisting of a stack of alternating layers of high refractive index material and low refractive index material and cutting away a portion of a correction film and the multilayer film stack in accordance with an amount of adjustment of a wavefront phase of emerging rays, in combination with all the limitations in the claim.

Response to Arguments

15. Applicant's arguments with respect to claims 8-10 and 28-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



gk



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